

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as indicated hereafter. It is believed that the following amendments and additions add no new matter to the present application.

In the Specification: [Use ~~strikethrough~~ for deleted matter (or double square brackets “[[]]” if the strikethrough is not easily perceivable, *i.e.*, “4” or a punctuation mark) and underlined for added matter.]

Please amend the paragraph starting on p. 5, line 12 as follows:

With the present mechanical devices such as the VEST™, the oscillating pressure administered to the chest wall is not transmitted equally across the chest to the underlying lung. Increased mucus transport only occurs in those portions of the lungs directly covered by the isolating pressure vest. In particular, ~~the~~ with the VEST™ device the lungs are excited from the sides but not from the top or bottom. The pressure administered by the VEST™ device is not uniform. The pressures applied to the patient’s chest varies greatly. Additionally, the frequency at which the vest operates is not fine-tuned such as to optimize airway stimulation with the least amount of applied external energy. Generally, in clinical use of the VEST™, patients adjust the frequency and amplitude of the applied chest wall stimulation to what they believe provides the best results or to the maximum they can ~~tolerate~~ tolerate.

Please amend the paragraph starting on p. 7, line 3 as follows:

In another aspect, a method for implementing hydro-acoustic therapy for the lungs includes the step of placing a person in the apparatus described above such that a body of the person is immersed in said fluid. Then, introducing acoustic vibrations into the fluid occurs. The vibrations, if properly tuned, cause the mobilization of respiratory secretions in the person.

Please amend the paragraph starting on p. 7, line 11 as follows:

HAT is also an improvement over the prior art for several reasons. HAT can be operated such that a lung of the patient moves uniformly for more effective treatment. HAT does not require physical impact with a chest of the patient, such as required by HFCC. Additionally, HAT does not require the presence of a trained caregiver or physical therapist. Finally, it is common to administer drugs to patients, such as cystic fibrosis patients, ~~though~~ through airborne inhalants. It is believed that the absorption of air-delivered drugs, if administered during HAT, will increase due to the operation of HAT.

Please amend the paragraph starting on p. 11, line 17 as follows:

While the piston 24/shaker 28 arrangement described above is a preferred acoustic generator, or the preferred method for generating acoustic waves in the fluid 12, other arrangements are possible. Indeed, it is possible to generate acoustic waves in the fluid 12 of proper frequencies and amplitudes using one or more commercially available underwater loudspeakers or transducers (either commercially available or custom designed) placed directly in the water. For example, electrodynamic, piezoelectric, hydraulic, magnetic, and electro-static ~~transducer~~ transducers could all be used with a HAT apparatus 10. One such other embodiment is described below in reference to Fig. 2. One having ordinary skill in the art would appreciate other ways of generating acoustic waves in the fluid 12 and these are all intended to be included within the scope of the present disclosure.

Please amend the paragraph starting on p. 14, line 1 as follows:

Within the chamber 11 of the preferred HAT apparatus 10, there is positioned a supporting structure 17 such that a person [[26]] 13 undergoing treatment can sit in the fluid 12. The supporting structure 17 should preferably be positioned such that the patient's head

14 protrudes from above the fluid surface 16, as shown in Fig. 1. Because patients come in different sizes, the supporting structure 17 is preferably adjustable.

Please amend the paragraph starting on p. 17, line 12 as follows:

The HAT apparatus 60 also preferably has a supporting structure 17 comprising a chair 46 and an adjustable frame [[47]] in the chamber 61. A hydrophone 54 is also affixed to the chest 56 of the patient 13 and connected to the computer 33 via a data cable 57. The hydrophone 54, as above, permits the computer 33 to monitor and control the treatment process. Notice that with the home embodiment 60, the chamber 61 is preferably designed with no supporting structure 49.

Please amend the paragraph starting on p. 19, line 1 as follows:

It is preferred that the pressure amplitude ~~to be~~ is high enough to be of therapeutic value. It has been determined in clinical tests that a level of at least 158dB re 1 μ Pa is therapeutic. Of course, the present invention is expressly not limited to a specific pressure amplitude and may be operated at a lower (or higher) amplitude level. Indeed, lower pressure amplitudes may be preferred if proven to be therapeutic. The computer 33 is programmed to maintain the pressure level at the lung (as measured by the hydrophone 54) at a therapeutic and safe level, 158 dB re 1 μ Pa in the preferred embodiment.

Please amend the paragraph starting on p. 19, line 14 as follows:

As depicted in Fig. 3, a first step in determining a resonant frequency of a patient's lungs is to begin with a chamber 11, as described above in reference to Fig. 1 without a patient 13 in the chamber 11. Fig. 3 depicts such an "empty" chamber 11. Then the hydrophone 54 that will be used on the patient 13, as described above in reference to Fig. 1, is lowered into the fluid 12 in the chamber 11. The level of the fluid 12 is adjusted such that it

is the same height on the side wall 19 of the chamber 11 as when the patient 13 was ~~not~~
seated in the chair 46.

In the Abstract: [Use ~~strikethrough~~ for deleted matter and underlined for added matter.]

Please replace the pending abstract with the newly-submitted abstract attached
herewith on a separate sheet.